TOSHIBA

SERVICE MANUAL

PAPER FEED UNIT

MY-1027

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General Precautions for Installation/Servicing/Maintenance for the MY-1027

The installation and service should be done by a qualified service technician.

1) When installing the MY-1027 to the Equipment, be sure to follow the instructions described in the “Unpacking/Set-Up Procedure for the MY-1027” booklet which comes with each unit of the MY-1027.

2) The MY-1027 should be installed by an authorized/qualified person.

3) Before starting installation, servicing or maintenance work, be sure to turn OFF and unplug the equipment first.

4) When servicing or maintaining the MY-1027, be careful about the rotating or operation sections such as gears, pulleys, sprockets, cams, belts, etc.

5) When parts are disassembled, reassembly is basically the reverse of disassembly unless otherwise noted in this manual or other related materials. Be careful not to reassemble small parts such as screws, washers, pins, E-rings, toothed washers to the wrong places.

6) Basically, the machine should not be operated with any parts removed or disassembled.

7) Delicate parts for preventing safety hazard problems (such as switches, sensors, etc. if any) should be handled/installed/adjusted correctly.

8) Use suitable measuring instruments and tools.

9) During servicing or maintenance work, be sure to check the serial No. plate and other cautionary labels (if any) to see if they are clean and firmly fixed. If not, take appropriate actions.

10) The PC board must be stored in an anti-electrostatic bag and handled carefully using a wristband, because the ICs on it may be damaged due to static electricity. Before using the wrist band, pull out the power cord plug of the equipment and make sure that there is no uninsulated charged objects in the vicinity.

11) For the recovery and disposal of used MY-1027, consumable parts and packing materials, follow the relevant local regulations/rules should be followed.

12) After completing installation, servicing and maintenance of the MY-1027, return the MY-1027 to its original state, and check operation.

CONTENTS

1. SPECIFICATION 1-1

2. GENERAL DESCRIPTION 2-1

2.1 Main Components 2-1
2.2 Sectional View 2-2
2.3 Electric Parts Layout 2-3
2.4 Symbols and Functions of Various Components 2-4
2.5 Diagram of Signal Blocks 2-5

3. DESCRIPTION OF OPERATIONS 3-1

3.1 Outline 3-1
3.2 Picking up System 3-2
3.3 Paper Feed System 3-3

4. DISASSEMBLY AND ASSEMBLY 4-1

5. ADJUSTMENT 5-1

5.1 Adjustment Procedure of Horizontal Deviation 5-1
5.2 Drawer Cover Position Adjustment 5-3

6. TROUBLESHOOTING 6-1

7. MAINTENANCE 7-1

7.1 Periodic Maintenance 7-1

8. CIRCUIT DIAGRAM / HARNESS DIAGRAM 8-1

8.1 Assembly Of PC Board 8-1
8.2 Harness Diagram 8-2
8.3 Circuit Diagram 8-3

1. SPECIFICATION

Function:	Automatic paper feed single cassette front loading
Paper Size:	A3 to B5-R / LD to LT-R
Paper Thickness:	Plain paper 64 to 80 g/m^2 (17 to 21 lbs. Bond)
Transport speed:	91 mm/sec./ 110 mm/sec (2 speed control)
Drawer capacity:	Paper height 28 mm (Approx. 250 sheets)
Dimensions:	530 (W) x 577 (D) x 125 (H) mm (Protrutions excluded)
Weight:	Approx. 5.0 kg
Power supply:	5 V DC, 24 V DC (Supplied from copier)

2. GENERAL DESCRIPTION

2.1 Main Components

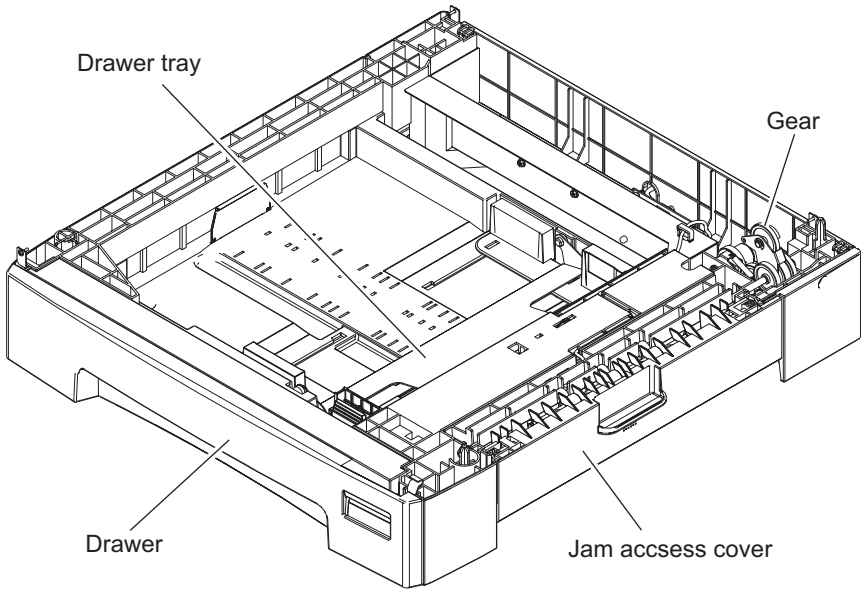

Fig. 2-1

2.2 Sectional View

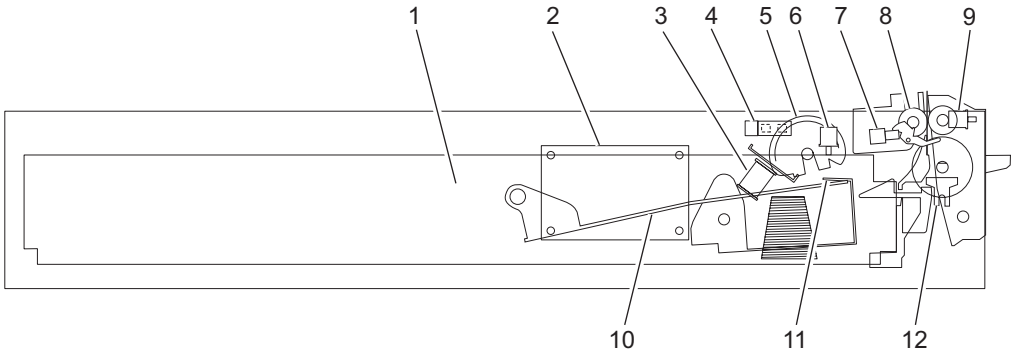

Fig. 2-2

1	Drawer
2	Paper feed unit PC board (PFU board)
3	Pickup solenoid
4	Paper empty sensor
5	Pickup roller
6	Drawer detection switch
7	Paper feed sensor
8	Feed roller
9	Jam accsess cover opening/closing switch
10	Drawer tray
11	Separation craw
12	Transport clutch (High speed / Low speed)

2.3 Electric Parts Layout

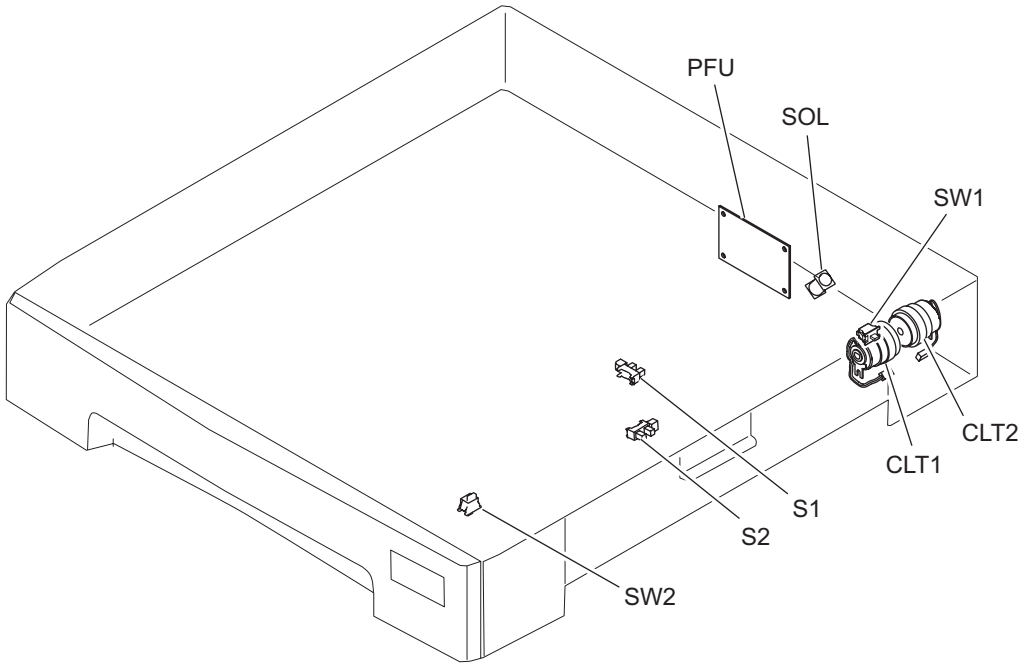

Fig. 2-3

2.4 Symbols and Functions of Various Components

The column "P-I" shows the page and item number in the parts list.

Symbol	Name	Function	Remarks	P-I
S1	Paper empty sensor	Detecting presence/absence of paper in the drawer		
S2	Paper feed sensor	Detecting paper jam and paper transport at the feeding section		
SW1	Jam access cover opening/ closing switch	Detecting opening/closing of the jam access cover		
SW2	Drawer detection switch	Detecting presence/absence of the drawer		
CLT1	Transport clutch (H)	Driving the feed roller (High speed)		
CLT2	Transport clutch (L)	Driving the feed roller (Low speed)		
SOL	Pickup solenoid	Controlling the power transmission of the pick up roller		
PFU	PFU control PC board	Controlling the paper feed unit		

2.5 Diagram of Signal Blocks

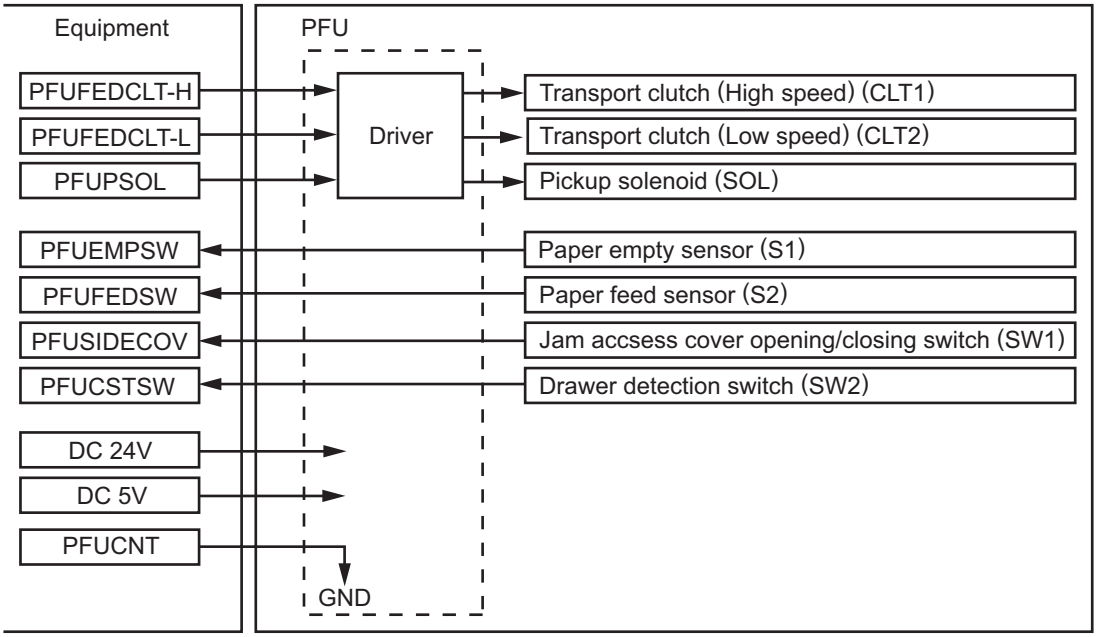

Fig. 2-4

3. DESCRIPTION OF OPERATIONS

3.1 Outline

The PFU is an additional paper feed unit and installed under the standard drawer (in the main equipment).
The PFU consists of 1 drawer, 2 sensors, 2 switches, 2 magnetic clutches and 1 solenoid.

3.2 Picking up System

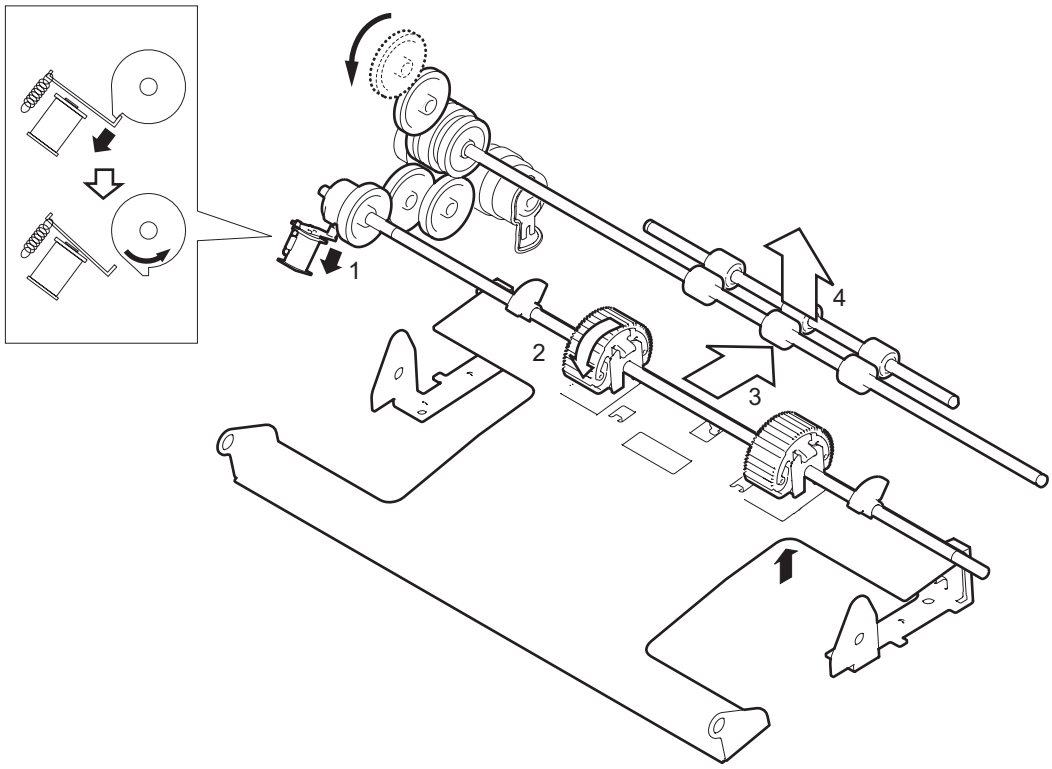

Fig. 3-1

The PFU has no motor for driving. Paper is fed and transported by transmitting the driving force of the main motor to the gear.
The driving force from the main equipment is transmitted to the paper feed and transport rollers through the gear.
When the drawer is inserted to the PFU, the drawer tray goes up by the spring force and paper can be fed.

Paper is picked up by the motion of the pickup solenoid.
When the pickup solenoid is turned ON, the pickup roller rotates and the paper is picked up from the drawer.
The pickup roller is semicircular and it stops at the home position for every rotation with the latch of the pickup solenoid.
The paper is separated with the separation claw.

3.3 Paper Feed System

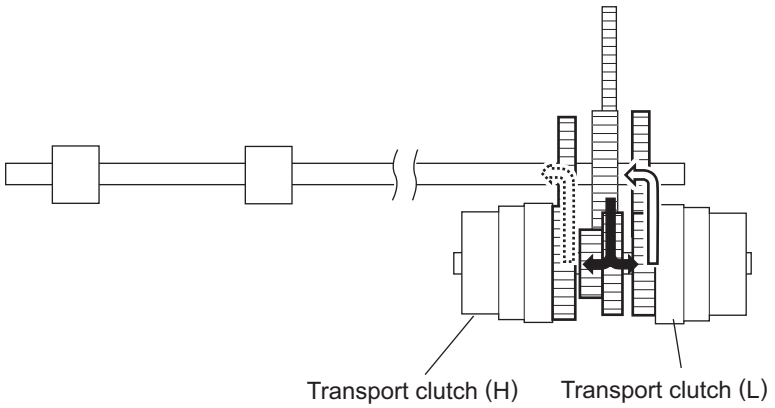

Fig. 3-2

The transport clutch (L/H) is turned ON when it transports paper and transmits the driving force from the equipment to the feed roller through the gear.

The transport clutch (Low speed) is turned ON when the paper is picked up from the PFU drawer or when the low speed transportation is performed for printing on the equipment. (Transportation speed: 91 mm/sec)
The transport clutch (High speed) is turned ON when the high speed transportation is performed to transport the paper which has passed through the paper feed sensor to the registration position. (Transportation speed: 110 mm/sec)
High speed transportation is also performed when the paper is transported from the PFP to the registration position. (When the PFP is connected)

4. DISASSEMBLY AND ASSEMBLY

Be sure to take off the PFU unit from the equipment before assembling/disassembling the unit.

[A] Pickup solenoid

(1) Remove 3 screws and take off the rear cover.

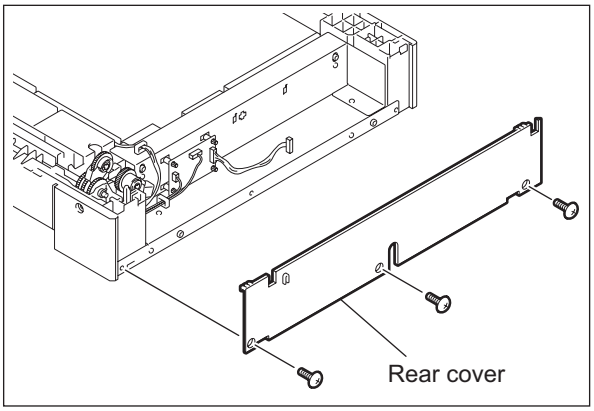

Fig. 4-1

(2) Disconnect 1 connector.
(3) Remove 1 screw and take off the pickup solenoid with bracket.

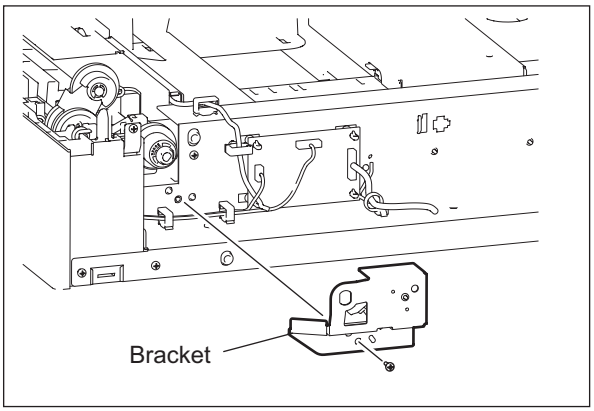

Fig. 4-2

(4) Remove 1 screw and take off the pickup solenoid.

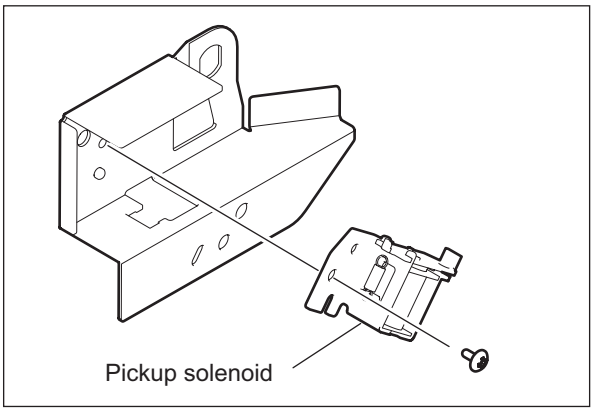

Fig. 4-3

[B] Pickup clutch

(1) Take off the drawer.
(2) Take off the pickup solenoid.
📖 P. 4-1 "[A] Pickup solenoid"
(3) Remove 1 bushing and 1 E-ring.
(4) Remove the pick up clutch.

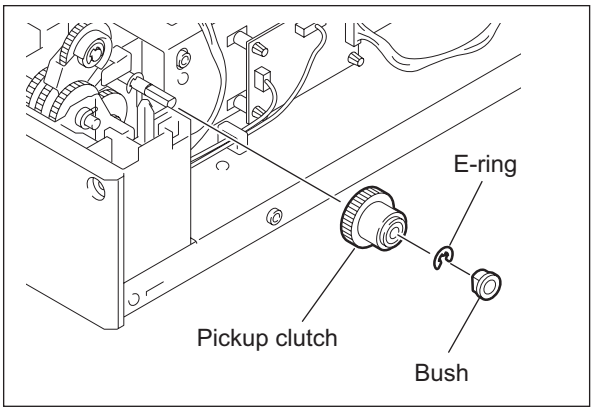

Fig. 4-4

[C] Pickup roller

(1) Take off the drawer.
(2) Rotate the pickup roller shaft counter-clockwise.

Note:
Because the tension is applied to the pickup roller shaft by the pickup clutch when it is rotated counter-clockwise, be sure to hold the shaft while replacing the roller.

(3) Release 2 latches each to take off 2 pickup rollers.

Note:
Be sure to install the pickup roller in the correct direction when reassembling it.

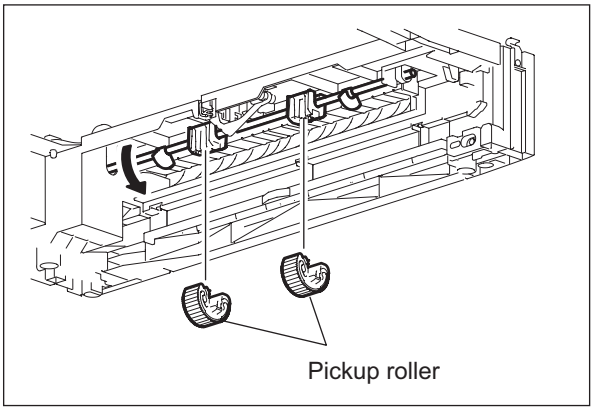

Fig. 4-5

[D] Transport clutch (H/L)

(1) Open the jam access cover.
(2) Remove 1 screw and take off the right rear cover.

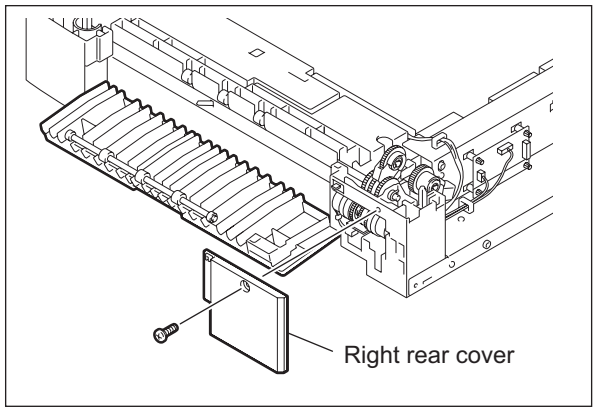

Fig. 4-6

(3) Disconnect 2 connectors.
(4) Rotate 2 clutch holders and take off the clutch holders with clutches.

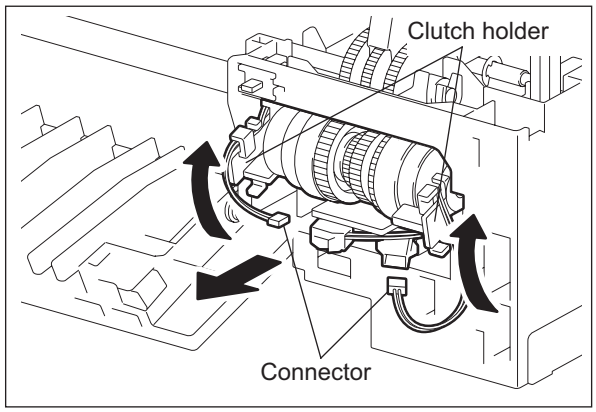

Fig. 4-7

(5) Remove 2 clutch holders and take off the clutches.

Note:
When installing the clutch, be careful of the position of the rotation stopper, pin number of the connector, and type of the clutch.

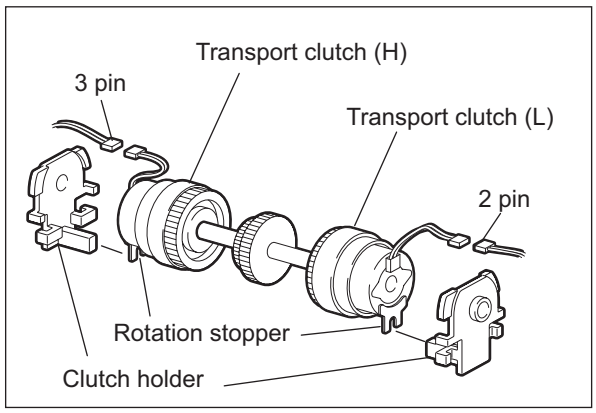

Fig. 4-8

[E] Feed roller

(1) Remove 1 spring.

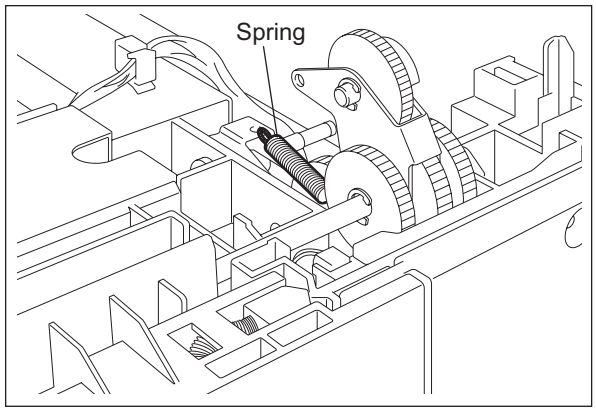

Fig. 4-9

(2) Remove 2 clips and 2 bushes.
(3) Remove the feed roller with gears.

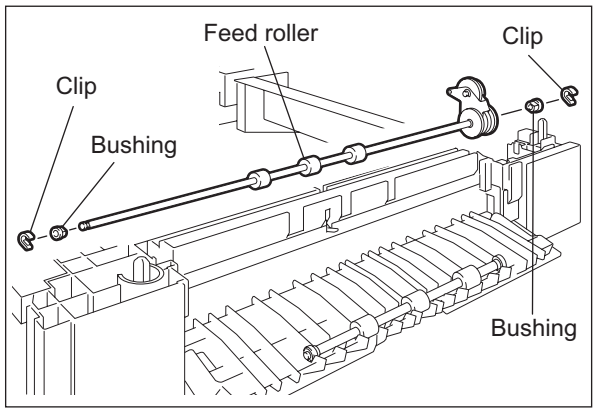

Fig. 4-10

(4) Remove 1 E-ring. Slide the gear and remove 1 pin.

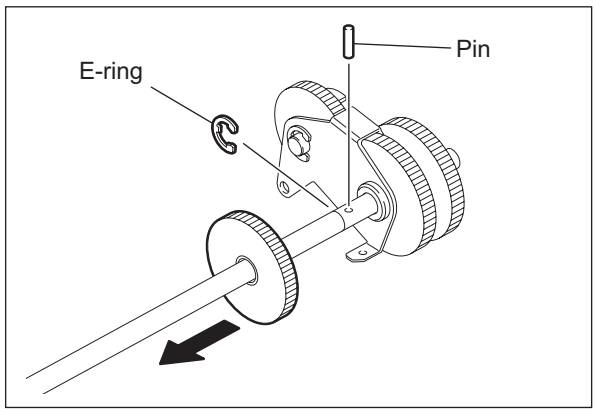

Fig. 4-11

(5) Slide the gears and remove 1 pin and pull out the gears.

Notes:

- Be careful of each position (number of teeth, direction) of the gear.
- Make sure the stopper of the gear bracket in the correct position.

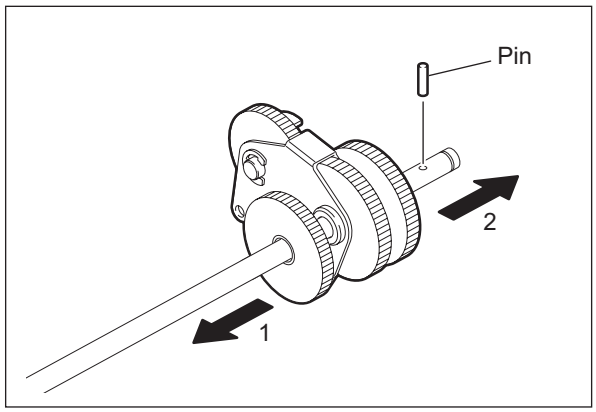

Fig. 4-12

[F] Paper feed sensor

(1) Disconnect 1 connector.
(2) Remove 1 screw and take off the sensor with the bracket.

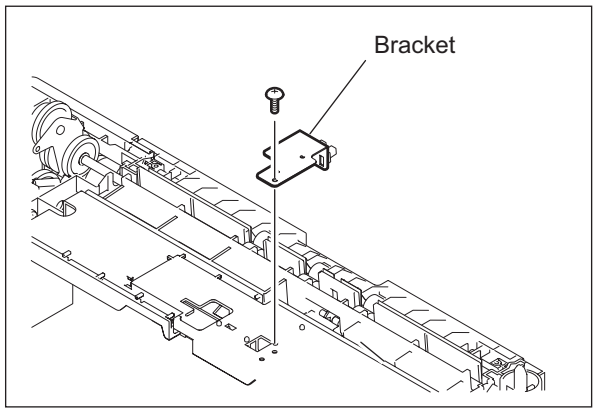

Fig. 4-13

(3) Release 2 latches and take off the paper feed sensor.

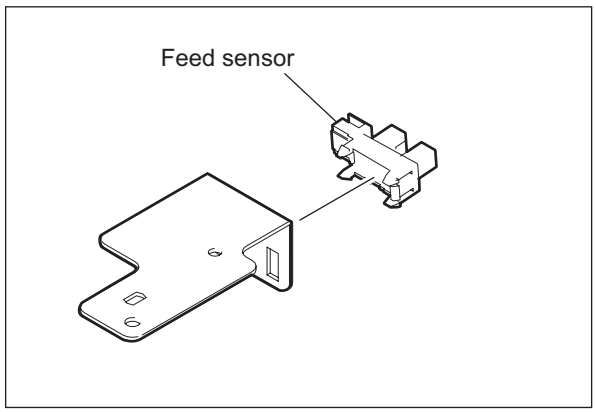

Fig. 4-14

[G] Paper empty sensor

(1) Disconnect 1 connector.
(2) Remove 1 screw and take off the sensor with the bracket.

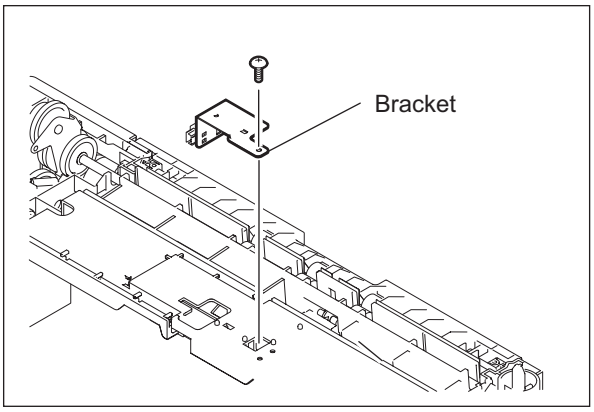

Fig. 4-15

(3) Release 2 latches and take off the paper empty sensor.

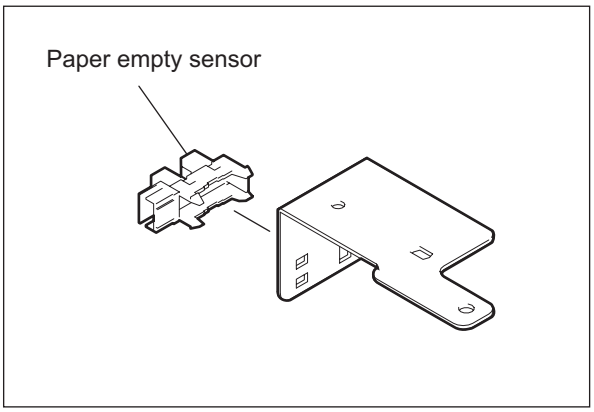

Fig. 4-16

[H] Jam access cover switch

(1) Remove 1 screw and take off the right rear cover.
(2) Disconnect 1 connector.
(3) Release 2 latches and take off the jam access cover switch.

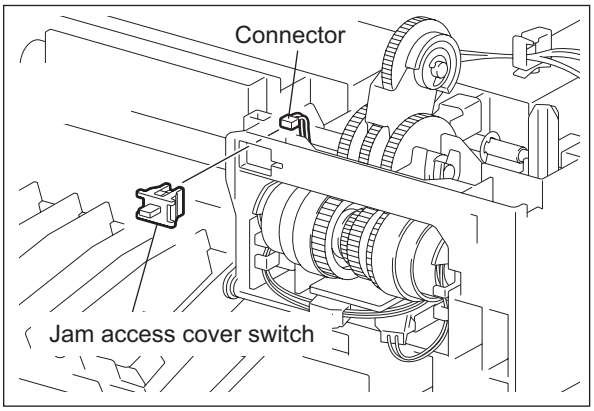

Fig. 4-17

[I] Drawer detection switch

(1) Take off the drawer.
(2) Disconnect 1 connector.
(3) Release 2 latches and take off the drawer detection switch.

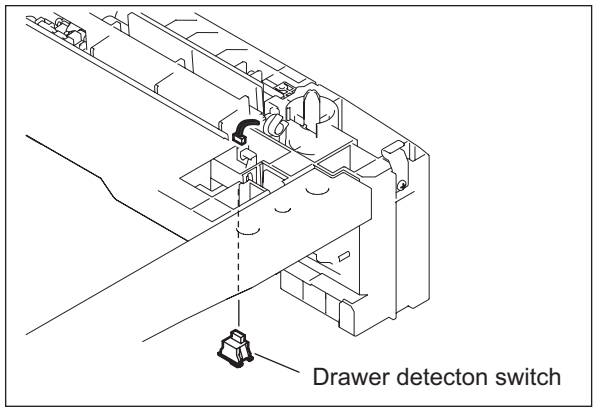

Fig. 4-18

[J] PFU control PC board

(1) Take off the rear cover.
(2) Disconnect 3 connectors.
(3) Release 4 lock supports and take off the ADF board.

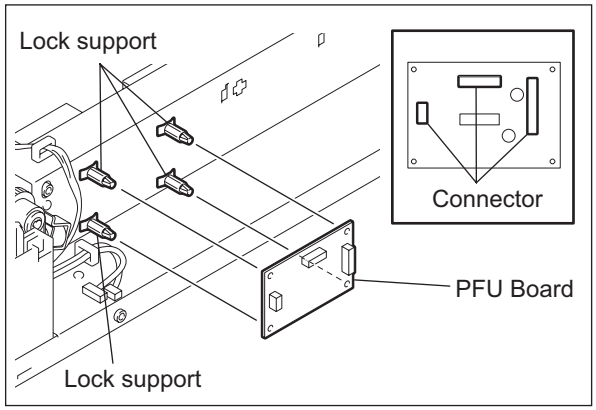

Fig. 4-19

5. ADJUSTMENT

The PFU is not adjusted for itself.
However, if the paper fed from the PFU drawer is misaligned horizontally from the one fed from the drawer of the main equipment, adjust the deviation.

5.1 Adjustment Procedure of Horizontal Deviation

A: The center of the printed image shifts to the front side. : Move the drawer catcher to the front side.
B: The center of the printed image shifts to the rear side. : Move the drawer catcher to the rear side.

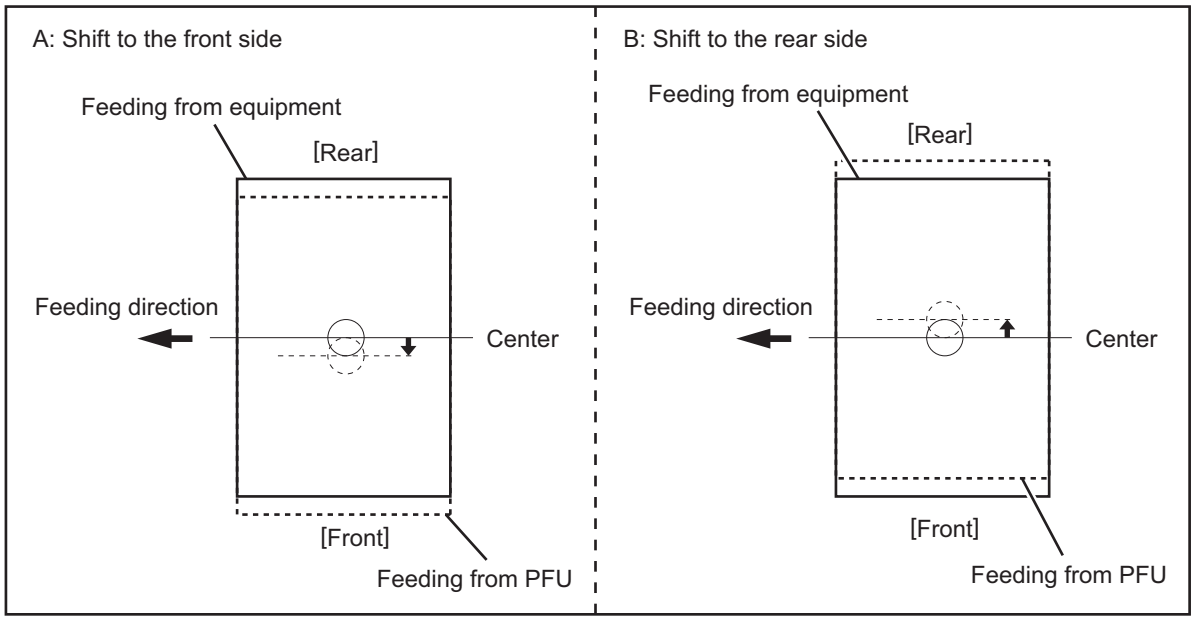

Fig. 5-1

<Procedure>

(1) Loosen 1 screw.
(2) Move the drawer catcher to the front or rear side.
(3) Tighten the 1 screw.

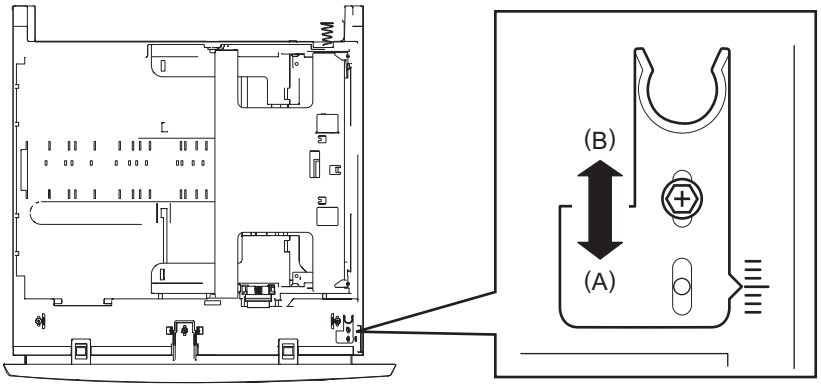

Fig. 5-2

5.2 Drawer Cover Position Adjustment

Adjust the drawer position as follows when the sideways deviation adjustment in Chapter 5.1 is performed or the misalignment with the drawer of the equipment is found.

(1) Pull out the drawer and loosen 3 screws.
(2) Move the drawer cover to the front or rear side to adjust the gap between the PFU and the drawer cover evenly.
(3) Tighten 3 screws.

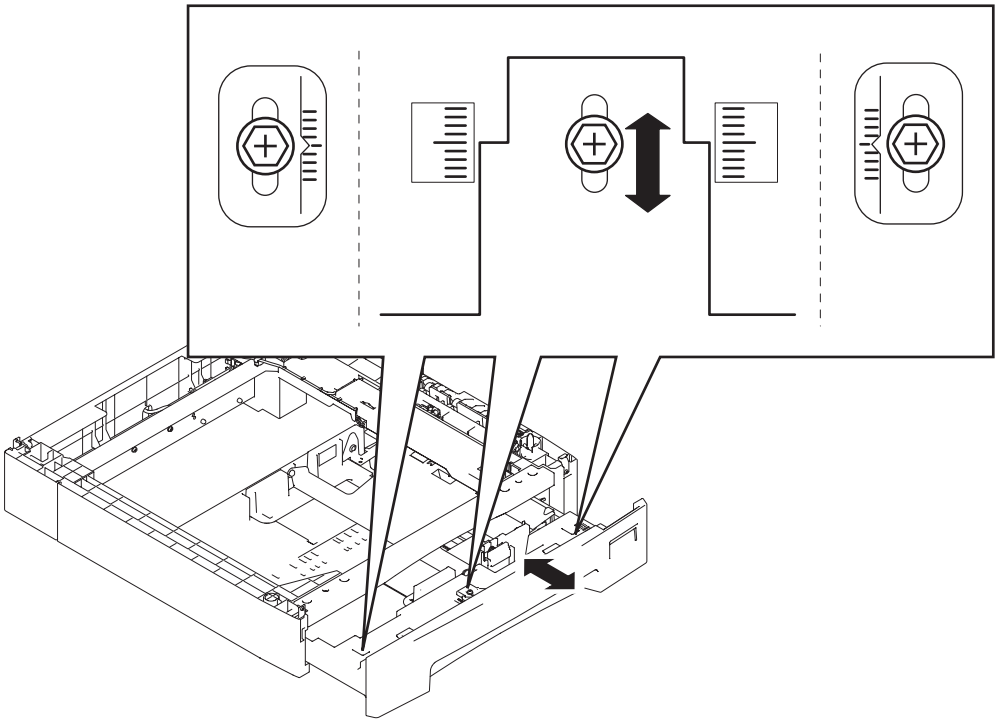

Fig. 5-3

6. TROUBLESHOOTING

1. Paper is not picked up.

Is there any deformation or wear of the pickup roller?

↓ →YES Replace the pickup roller.

NO

Does the pickup roller rotate? (Output check: Perform 101 before performing 202)

↓ →NO Replace the pickup solenoid or fix the breakage of the drive system.

YES

Is the lift-up mechanism of the drawer normal?

↓ →NO Fix the lift-up mechanism.

YES

Is the paper empty sensor normal? (Input check: [Interrupt] button turned OFF, 6, LED5)

↓ →NO Replace the paper empty sensor.

YES

Fan the paper and load it again.

2. Multiple sheets of paper are fed in one go.

Is the paper damp?

↓ →YES Replace the paper.

NO

Is the paper separation claw deformed?

↓ →YES Fix or replace the paper separation claw.

NO

Fan the paper and load it again.

3. Paper is picked up, but is not fed to the equipment.

Does the feed roller rotate? (Output check: Perform 101 before performing 202)

↓ →NO Replace the drive gear or transport clutch (L).

YES

Is the feed sensor normal? (Input check: [Interrupt] button turned OFF, 7, LED5)

↓ →NO Replace the paper feed sensor.

YES

Check the feed roller and replace it if it is worn or deformed.

4. Paper skews or deviates sideways.

Is the paper correctly set?

↓ →NO Fan the paper and load it again.

YES

Is the width of the paper guide properly adjusted?

↓ →NO Adjust the width of the guide to that of the paper.

YES

Check if the marks of the right and left scales for the drawer cover position are on the same number. Perform sideways deviation adjustment if necessary.

5. The PFU does not operate.

Check if the connection with the equipment is normal. (Input check: [Interrupt] button turned OFF, 8, LED4)

↓ →NO Connect the connector correctly or replace the harnesses.

YES

Replace the PFU board.

7. MAINTENANCE

7.1 Periodic Maintenance

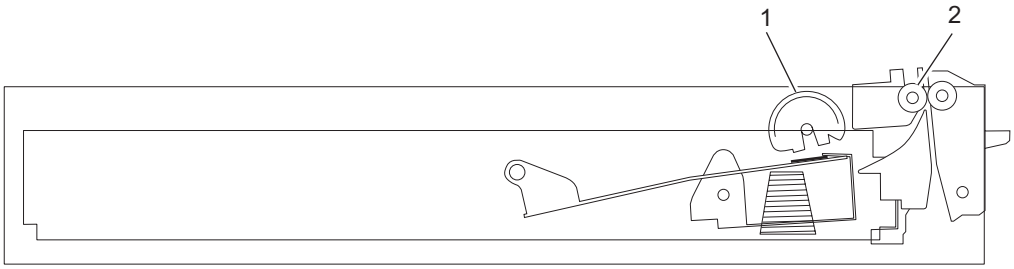

Fig. 7-1

Symbols used in the checklist

Cleaning	Lubrication/Coating	Replacement	Operation check
A: Clean with alcohol B: Clean with soft pad, cloth or vacuum cleaner	L: Launa 40 SI: Silicon oil W: White grease (Molykote X5-6020) AV: Alvania No.2	The number of sheets consumed before replacement (Value x 1,000). R: Replace if deformed or damaged	O: After cleaning or replacement, confirm there is no problem

Preventive Maintenance Checklist

Note:
Page-Item (P-I) is described in the column of the Parts list.

Item to check		Cleaning	Lubrication/ Coating	Replacement (x1,000)	Operation check	Parts list (P-I)	Remarks
1	Pickup roller	A		90		3-12	
2	Feed roller	A				3-16	

8. CIRCUIT DIAGRAM / HARNESS DIAGRAM

8.1 Assembly Of PC Board

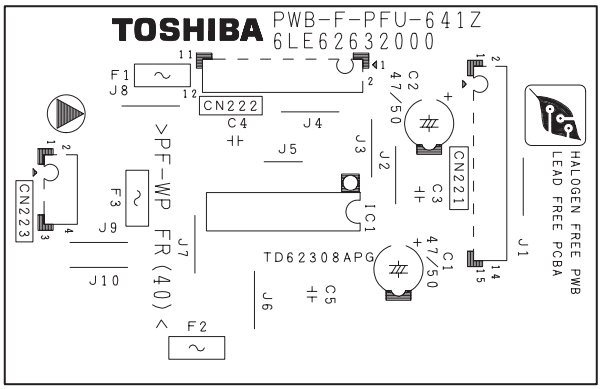

Fig. 8-1

8.2 Harness Diagram

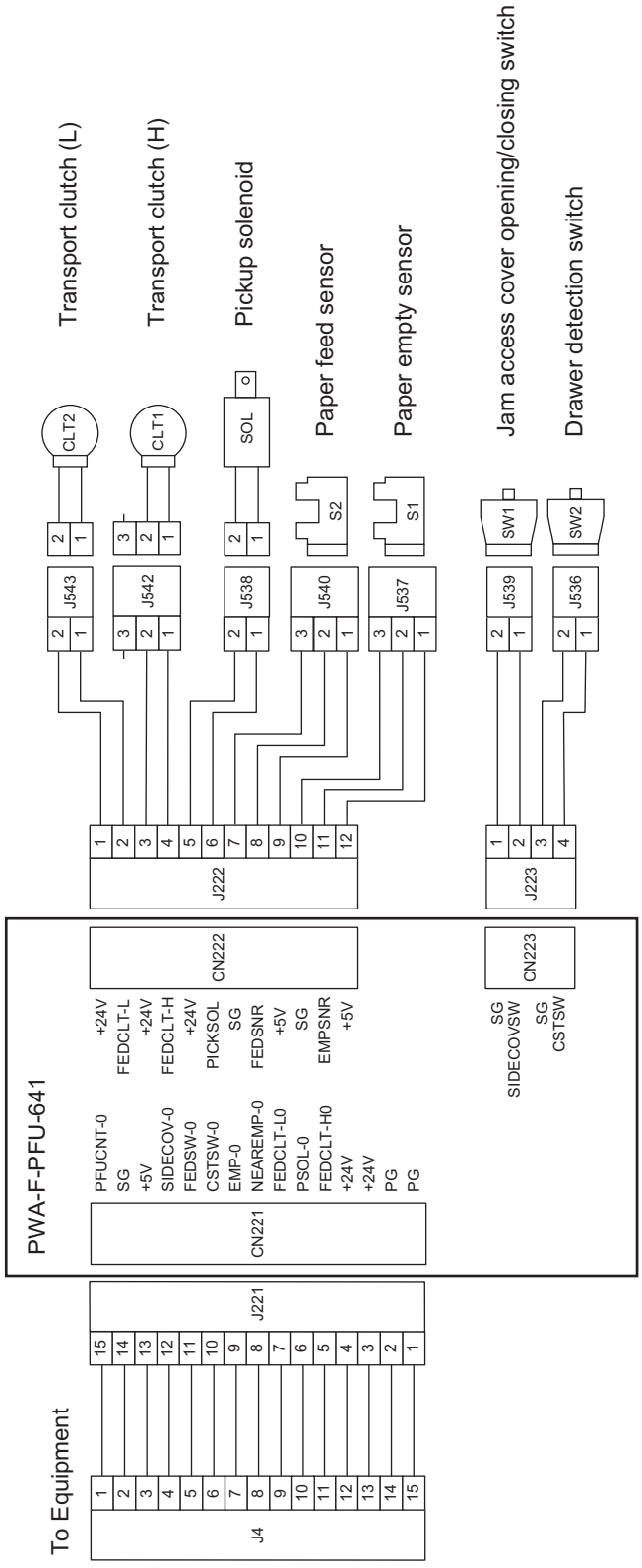

Fig. 8-2

8.3 Circuit Diagram

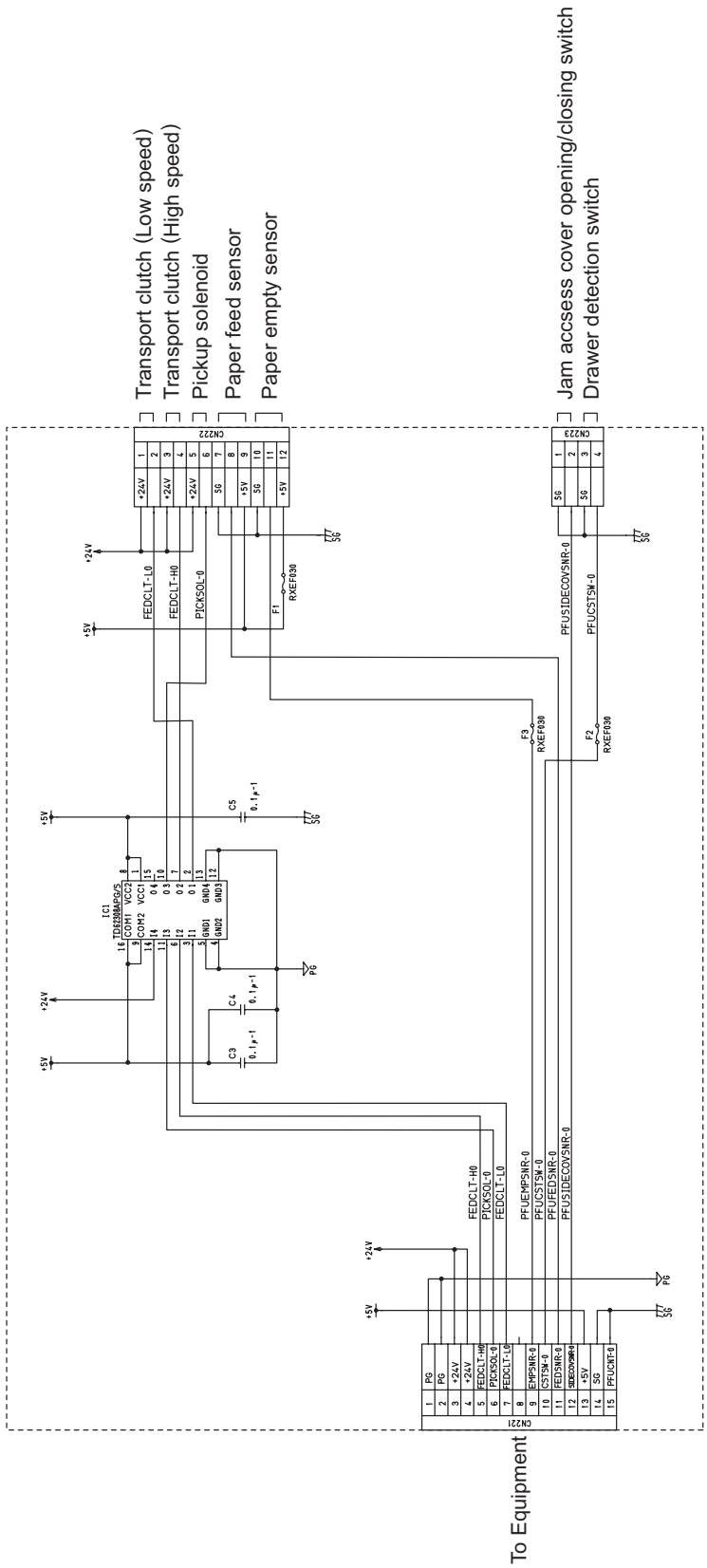

Fig. 8-3

TOSHIBA

TOSHIBA TEC CORPORATION

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